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TID/PB-132/67
3 November 1967

MEMORANDUM FOR: Assistant for Technical Development, NPIC

THROUGH: Chief, Technical Intelligence Division, NPIC

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SUBJECT: [redacted] Multiple Format Data Block Reader

1. Prior to receipt of Mission 1101, only small amounts of simulated test data was available to use in checking out the operation of the Data Block Reader. It appeared to perform satisfactorily in reading the test material.

2. Receipt of Mission 1101 has provided the first operational material to be processed by the instrument. Upon receipt of the film for Mission 1101-1, work was started to read the data block. Initially the instrument performed satisfactorily. About 75% of Mission 1101-1 was read when malfunctions started to occur. It was determined that the Encoder device was faulty and [redacted] "cannibalized" the second instrument for the part. Installation of the replacement part did not correct the malfunction, and at this writing, the cause and required correction are being investigated.

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3. Although complete success with the DBR has not as yet been achieved, we feel it is merely a matter of time until the "hardware bugs" are isolated and corrected. During the period of time when it did operate satisfactorily, the experience we gained pointed to certain currently required operating procedures that are undesirable and time consuming.

4. Current operating procedures, as dictated by the instrument, require that each can of film be re-wound onto a special film reel prior to mounting on the reader. Additionally, a small piece of reflecting tape must be affixed in a specified position before the first data block on a roll and after the last data block. The function of these tape marks is to initialize the read circuitry and indicates the end of a roll of film to the reader. All the foregoing operations are performed manually. In the case of Mission 1101-1, this procedure required winding and re-winding 125 cans of film and placing 250 pieces of reflecting tape in specified positions. During the time that the reader was performing satisfactorily, 6 man-days were required to read the data from the forward panoramic camera only on Mission 1101-1.

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11/9/67 - Talked to [redacted] this date re (5a). He feels the recommendation for idler rollers doesn't warrant expenditure of [redacted] (est). He would like elimination of the tape however, [redacted] thinks this can be done - a [redacted] plus 10 days installation here. Chargable to Maintenance Contract. Steve

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5. The time required to process a mission through the data-block reader will no doubt be reduced as operating personnel acquire more experience and proficiency and the hardware "bugs" are eliminated. There will still be an inordinately large amount of time expended in the physical handling of the material as is currently prescribed. Accordingly, it is suggested that the feasibility of modifying the subject instrument to eliminate or reduce manual handling be investigated. Specifically, the following changes are desired:

a. Provide a capability to mount the film directly on the reader with the spools it is wound on. A series of idler rollers to insure lateral alignment of the film with respect to the read head is suggested.

b. Elimination of the requirement for the reflecting tape marks. A manual switch to initialize the read circuit would be preferable and more efficient. The currently provided stop switch should allow the operator to indicate the end-of-roll.

6. To date, only limited experience has been gained in processing mission material through this instrument. Additionally, only three formats of the possible twelve the instrument is designed to read have been processed operationally. Assuming that there will be a continuing requirement to read data blocks for the current system and probably other systems, using the various available formats, the manual handling of mission material will become a formidable task.

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[redacted]
Chief, Photogrammetric Branch, TID/NPIC

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